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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/073,596	05/06/1998	RALPH M. STEINMAN	20164000US5	9977

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EXAMINER

EWOLDT, GERALD R

ART UNIT PAPER NUMBER

1644

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/073,596

Applicant(s)

STEINMAN ET AL.

Examiner

G. R. Ewoldt, Ph.D.

Art Unit

1644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006 and 11 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 82,84-96 and 98-122 is/are pending in the application.
- 4a) Of the above claim(s) 82,87,88,90,93,96,98,100 and 102 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 84-86,89,91,92,94,95,99,101 and 103-122 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1644

DETAILED ACTION

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed 4/11/06 in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment and remarks, filed 3/10/06, have been entered.

2. Claims 82, 84-88, 90, 93, 96, 98, 100, and 102 were previously withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to non-elected inventions.

Regarding Claim 84, Applicant has indicated that the claim does indeed encompass a composition comprising antigen-activated DCs. Accordingly, Claims 84-86 have been rejoined.

Claims 84-86, 89, 91-92, 94-95, 99, 101, 103-121, and newly added Claim 122, are being acted upon.

3. In view of Applicant's amendments and remarks, filed 3/10/06, the previous rejections of Claim 118 and 119 under the first paragraph of 35 U.S.C. 112 for the introduction of new matter have been withdrawn. Additionally, the rejections under 35 U.S.C. 103(a) have also been withdrawn in view of Applicant's argument that the DCs of Sornasse et al. only "slightly induce" the activation of T cells and thus are not the DCs of the instant claims.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 110 stands rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed, for the reasons of record. This is a new matter rejection.

Art Unit: 1644

As set forth previously, the specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) the recitation in Claim 110 of, "wherein the cell aggregates are subcultured --one to five times-- every 3 to 30 days."

Applicant arguments, filed 3/10/06, have been fully considered but are not found persuasive.

Applicant argues that support for newly amended Claim 110 can be found in original Claim 14.

A review of the original claims shows that Claim 14 recited a method of producing a population of DC precursors and not the composition of the instant claim.

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 84-86, 89, 91-92, 94-95, 99, 101, 103-121, and newly added Claim 122, stand/are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 45 and 46 of copending Application No. 10/287,813. Although the conflicting claims are not identical, they are not patentably distinct from each other because both sets of claims encompass antigen-activated dendritic cells.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Art Unit: 1644

Applicant again requests that this rejection be held in abeyance until the finding of allowable subject matter.

8. Claims 84-86, 89, 91-92, 94-95, 99, 101, 103-121, and newly added Claim 122 stand/are rejected under 35 U.S.C. § 112, first paragraph, as the specification does not contain a written description of the claimed invention, in that the disclosure does not reasonably convey to one skilled in the relevant art that the inventor(s) had possession of the claimed invention at the time the application was filed, for the reasons of record. This is a new matter rejection.

As set forth previously, The specification and the claims as originally filed do not provide support for the invention as now claimed, specifically:

A) An *in vitro* composition comprising antigen-activated dendritic cells presenting fragmented antigen derived from an *in vitro* culture of an enriched and expanded population of proliferating dendritic cell precursors by a method comprising:

- providing a tissue source comprising dendritic cell precursors;
- optionally treating the tissue source comprising dendritic cell precursors to increase the proportion of dendritic cell precursors;
- culturing the tissue source on a substrate in a culture medium comprising GM-CSF to obtain cell clusters;
- subculturing the cell clusters to produce cell aggregates comprising proliferating dendritic cell precursors; and
- subculturing the cell aggregates at least one time to enrich the proportion of dendritic cell precursors;

wherein the dendritic cell precursors are cultured *in vitro* in the presence of an antigen for time sufficient to allow the antigen to be fragmented and presented (Claim 101).

B) An *in vitro* composition comprising antigen-activated dendritic cells presenting fragmented antigen derived from an *in vitro* culture of population of enriched and expanded proliferating dendritic cell precursors which were contacted *in vitro* with an antigen in the presence of GM-CSF for a sufficient time for antigen fragmentation and presentation to occur (Claim 120).

It is noted that no support for the limitations of these claims as they are now recited has been submitted. Limitations have been added amendment by amendment such that the claimed invention has evolved into one that is not supported by the specification. In particular, note that the method of Claim 101 is in general disclosed by the specification as a method of deriving mature DCs, not the antigen-activated DCs of the claims. Also note that not all the steps of the claimed method are precisely those set forth in the specification, for example, the "optional" step of treating the tissue source comprising dendritic cell precursors to increase the proportion of dendritic cell precursors does not appear to be optional in the specification.

And additionally note that it is not even clear how the claimed invention actually evolved. For example, the "enriched and expanded population of processed antigen presenting dendritic cell precursors" of Claim 101 as set forth in the submission of 7/09/01 evolved into the "population of antigen-activated dendritic cell precursors" of 4/12/02, apparently without amendment.

Applicant's citing of support for each of the limitations of the instant claims, in their instant context, would be of significant help in expediting

Art Unit: 1644

prosecution.

Applicant arguments, filed 3/10/06, have been fully considered but are not found persuasive. Applicant begins by citing page 19.

The cite at page 19 discloses mature DCs and not the antigen-activated DCs of the claims.

Applicant cites pages 40 and 19.

Pages 40 and 19 disclose antigen-activated DCs, but not antigen-activated DCs prepared by the method of the instant claims.

Applicant cites page 42.

Page 42 discloses a method of using antigen-activated DCs.

Applicant cites page 12.

Page 12 again discloses mature DCs.

Applicant cites pages 5, 6, and 36 in support of "antigen fragmentation".

Antigen fragmentation is not disclosed at these cites in the context of DC precursors.

Applicant cites page 19.

Page 19 again discloses mature DCs.

Applicant cites pages 20-21.

Pages 20-21 do support the "optional" step of treating DC precursors to increase their proportion.

Applicant cites pages 24 and 25 regarding the use of GM-CSF to promote proliferation.

Pages 24 and 25 do not support the use of GM-CSF to obtain cell clusters.

Applicant cites pages 26-30 as supporting cell culture and subculture conditions,

Art Unit: 1644

The cite at page 26 discloses only the culture of human or mouse cells. Again at page 28, the specification discloses conditions as employed for the culture of human precursor cells. Also note the references to "cell aggregates" and the generic references to producing "dendritic cells" and not the antigen-activated DCs of the claims.

Applicant cites page 36.

It appears that page 36 does disclose the antigen fragmentation by DC precursors.

Accordingly, while bits and pieces of the method of producing the antigen-activated DCS of the instant claims are disclosed, the method as a whole is not.

9. The following are new grounds for rejection.

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 122 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, specifically, the claim is a duplicate of Claim 84.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

13. Claims 84-86, 89, 91-92, 94-95, 99, 101, 103-121, and newly added Claim 122 are rejected under 35 U.S.C. 102(a) as being anticipated by Pancholi et al. (1992).

Pancholi et al. teaches a pharmaceutical composition comprising human DCs pulsed with tuberculosis antigens (see particularly page 218, last paragraph).

Art Unit: 1644

The reference clearly anticipates the claimed invention.

Regarding product-by-process claims, MPEP 2113 states:

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985), and

"The Patent Office bears a lesser burden of proof in making out a case of *prima facie* obviousness for product-by-process claims because of their peculiar nature" than when a product is claimed in the conventional fashion. *In re Fessmann*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974). Once the examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

It is the Examiner's position that antigen-activated DCs of the instant claims are the DCs of the prior art.

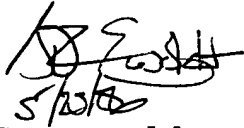
14. No claim is allowed.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Gerald Ewoldt whose telephone number is (571) 272-0843. The examiner can normally be reached Monday through Thursday from 7:30 am to 5:30 pm. A message may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841.

16. **Please Note:** Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information

Art Unit: 1644

about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Additionally, the Technology Center receptionist can be reached at (571) 272-1600.

A handwritten signature in black ink, appearing to read 'G.R. Ewoldt', with a date '5/20/12' written below it.

G.R. Ewoldt, Ph.D.
Primary Examiner
Technology Center 1600